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| 09/830,899 | 08/13/2001 | Seungup Paek | A32095-PCTUS | 5340 |

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NEW YORK, NY 10112

| EXAMINER |
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LEROUX, ETIENNE PIERRE

| ART UNIT | PAPER NUMBER |
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2171

DATE MAILED: 03/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

3

Office Action Summary

Application No.

09/830,899

Applicant(s)

PAEK ET AL.

Examiner

Etienne P LeRoux

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 December 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-43 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-43 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-43 are rejected under 35 U.S.C. 102(e) as being anticipated by Pub No US 2001/0000962 issued to Rajan (hereafter Rajan '962).

Regarding claims 1, 17 and 33, Rajan '962 discloses:

(a) at least one multimedia information input interface receiving said multimedia information [Fig 1 and paragraph 0040]

(b) a computer processor [Fig 1], coupled to said at least one multimedia information input interface receiving said multimedia information therefrom,

processing said multimedia information by performing object extraction processing to generate multimedia object descriptions from said multimedia information [scene description information, paragraph 0042]

processing said generated multimedia object descriptions by object hierarchy processing to generate multimedia object hierarchy descriptions indicative of an organization of said object descriptions [paragraph 0043]

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wherein at least one description record including said multimedia object descriptions and said multimedia object hierarchy descriptions is generated for content embedded within said multimedia information [paragraph 0044]

(c) a data storage system, operatively coupled to aid processor for storing at least said at least one description record [Fig 1, 105, 176, 186, 160, 170]

Regarding claims 2, 18 and 34, Rajan '962 discloses image object description [paragraph 0043]

Regarding claims 3, 7, 19 and 23, Rajan '962 discloses image segmentation [composition layer, paragraph 0045] and feature extraction [pitch of a sound, paragraph 0045]

Regarding claims 4, 20, 35 and 39, Rajan '962 discloses size [scale, paragraph 0044]

Regarding claims 5, 21 and 36, Rajan discloses spatial characteristics [paragraph 0044]

Regarding claims 6, 22, 37, 41 and 43, Rajan '962 discloses logical descriptions [paragraph 0043]

Regarding claims 8 and 24, Rajan '962 discloses encoding the image object hierarchy descriptions [paragraph 0042]

Regarding claims 9, 25 and 38, Rajan '962 discloses video object hierarchy descriptions [paragraph 0040]

Regarding claims 10 and 26, Rajan '962 discloses temporal video segmentation [paragraph 0044] region segmentation [positioning parameters, paragraph 0043], feature extraction [paragraph 0045]

Regarding claims 11 and 27, Rajan '962 discloses an event feature description of time [paragraph 0044] and an object feature description of shape size position motion and time [paragraphs 0042-0045]

Regarding claims 12, 28, 40 and 42, Rajan '962 discloses physical event hierarchy descriptions [paragraph 0044] and temporal descriptions [paragraph 0044]

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Regarding claims 13, 14, 29 and 30, Rajan '962 discloses logical event hierarchy organization [paragraph 00043], video objects [paragraph 0040] and temporal descriptions [paragraph 0040]

Regarding claims 15 and 31, Rajan '962 discloses temporal video segmentation [paragraph 0041] grouping of video events into regions [paragraph 0043] and feature extraction [paragraph 0045]

Regarding claims 16 and 32, Rajan '962 discloses encoded description information [paragraph 0042]

Response to Arguments

Applicant's arguments filed 12/11/2003 have been fully considered but they are not persuasive.

First Applicant Argument:

Applicant states on page 13 "Rajan does not disclose or suggest at least several features of the claimed invention including 'processing said multimedia information by performing object extraction processing to generate multimedia descriptions.' On p 3 of the Office Action paragraph 42 is cited as allegedly disclosing this element – however, paragraph 42 is devoid of any discussion of object extraction even generally. Indeed, the object extraction of the present invention is a complex process defined with reference to another patent application, U.S. Patent Application Serial No. 09/405,555 , filed September 24, 1998, entitled 'An Active System and Algorithm for Semantic Video Object Segmentation,' the contents of which are incorporated by reference into the specification of the present application. Rajan paragraph 42 does not disclose or even remotely suggest this claimed object extraction feature in toto or even generally."

First Examiner Response:

Examiner is not persuaded. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., the object extraction of the present invention is a complex process defined with reference to another

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patent application, U.S. Patent Application Serial No. 09/405,555 , filed September 24, 1998, entitled 'An Active System and Algorithm for Semantic Video Object Segmentation) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., Rajan paragraph 42 does not disclose or even remotely suggest this claimed object extraction feature in toto or even generally) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Furthermore, examiner maintains that Rajan in paragraph 43 does in fact disclose the claim 1 limitation "processing said multimedia information by performing object extraction processing to generate multimedia object descriptions from said multimedia information, and processing said generated multimedia object descriptions by object hierarchy processing to generate multimedia object hierarchy descriptions indicative of an organization of said object descriptions."

Examiner considers below the specification on page 12 and continuing onto page 13 where the following is recorded:

The third subsystem 230 is a video object segmentation system in which automatic segmentation is integrated with user input to track semantic objects in video sequences. For general video sources, the system allows users to define an approximate boundary by using a tracing interface. Given the approximate object boundary, the system automatically refines the boundary and tracks the movement of the object in subsequent frames of the video. The system is robust enough to handle any real-world situations that are hard to model in existing approaches, including complex objects, fast and intermittent motion, complicated backgrounds, multiple moving objects and partial occlusion. the description generated by this system is a set of semantic objects with the associated regions and features that can be manually annotated with text. A complete description of the system 230 is contained in U.S. Patent Application Serial No. 09/405,555, files September 24, 1998, entitled "An Active

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System and Algorithm for Semantic Video Object Segmentation," the contents of which are incorporated by reference herein.

Examiner maintains that the disclosure by Rajan in paragraphs 43-46 reads on the above claim language and disclosure by Rajan:

43. The scene description information describes the logical structure of a scene, and indicates how objects are grouped together. Specifically, an MPEG-4 scene follows a hierarchical structure, which can be represented as a directed acyclic (tree) graph, where each node or a group of nodes, of the graph, represents a media object. The tree structure is not necessarily static, since node attributes (e.g., positioning parameters) can be changed while nodes can be added, replaced, or removed.

44. The scene description information can also indicate how objects are positioned in space and time. In the MPEG-4 model, objects have both spatial and temporal characteristics. Each object has a local coordinate system in which the object has a fixed spatial-temporal location and scale. Objects are positioned in a scene by specifying a coordinate transformation from the object's local coordinate system into a global coordinate system defined by one more parent scene description nodes in the tree.

45. The scene description information can also indicate attribute value selection. Individual media objects and scene description nodes expose a set of parameters to a composition layer through which part of their behavior can be controlled. Examples include the pitch of a sound, the color for a synthetic object, activation or deactivation of enhancement information for scaleable coding, and so forth.

46. The scene description information can also indicate other transforms on media objects. The scene description structure and node semantics are heavily influenced by VRML, including its event model. This provides MPEG-4 with an extensive set of scene construction operators, including graphics primitives that can be used to construct sophisticated scenes.

Second Applicant Argument:

Applicant states on page 13:

Likewise, paragraph 0043 is cited on p. 3 of the Office Action as allegedly disclosing the claimed feature of "processing said generated multimedia object descriptions by object hierarchy processing to generate multimedia object hierarchy." However, while paragraph 0043 generally discloses that an MPEG-4 scene follows a hierarchical structure, it nowhere indicates that multimedia objection

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descriptions, which are generated by, e.g., performing object extraction, are processed by object hierarchy processing.

Second Examiner Response:

Examiner is not persuaded. Applicant is referred to above response.

Third Applicant Argument:

Applicant states on page 13/14 the following:

Claims 3, 7, 19 and 23 are patentable for the additional reason that they include limitations of "image segmentation" and "feature extraction." On p. 3 of the Office Action, it is asserted that paragraph 0045 describe these features. In fact, it is asserted in the Office Action that the limitation of "feature extraction" is disclosed by the reference to "pitch of a sound" in T 0045. This is plainly incorrect. As noted above, the object extraction of the present invention is defined with reference to another patent application, U.S. Patent Application Serial No. 09/405,555, filed September 24, 1998, entitled "An Active System and Algorithm for Semantic Video Object Segmentation," the contents of which are incorporated into the specification of the present application. This claimed feature cannot possibly be disclosed or suggested by simple reference in Rajan to "pitch of a sound." See Office Action, p. 3.

Third Examiner Response:

Examiner is not persuaded. MPEP § 2111.01 requires that "[d]uring examination, the claims must be interpreted as broadly as their terms reasonably allow. This means that the words of the claim must be given their plain meaning unless applicant has provided a clear definition in the specification. *In re Zletz*, 893 F.2d 319, 321, 13 USPQ2d 1320, 1322 (Fed Cir. 1989). One must bear in mind that, especially in nonchemical cases, the words in a claim are generally not limited in their meaning by what is shown or disclosed in the specification. It is only when the specification provides definitions

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for terms appearing in the claims that the specification can be used in interpreting claim language. *In re Vogel*, 422 F.2d 438, 441, 164 USPQ 619, 622 (CCPA 1970).”

Fourth Applicant Argument:

Independent claim 33 as amended is directed to a computer readable medium with at least one multimedia description record describing multimedia content for corresponding multimedia information, the description record comprising, inter alia, object descriptions, generated by performing object extraction processing. As discussed at length above, Rajan fails to disclose or even remotely suggest at least the feature of object descriptions generated by performing object extraction processing. Accordingly, because Rajan fails to disclose or suggest at least these claimed features, this reference fails to anticipate independent claim 33 as amended.

Fourth Examiner Response:

Examiner is not persuaded. Applicant is referred to above response 1.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Etienne LeRoux whose telephone number is (703) 305-0620. The examiner can normally be reached on Monday – Friday from 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Safet Metjahic, can be reached on (703) 308-1436.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Etienne LeRoux

3/9/2004



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